

desert plants and there is an increase of anthropic species, suggesting a cooling and dry episode. However these dry conditions have been gradually replaced by wet conditions at the end of this period. Finally, the last 150 years shows the increase of anthropic activities as revealed by the expansion of pine and anthropic associations.

**Palavras chave:** paleoclimatologia, Holocénico médio e recente, SW margem Ibérica, palinologia marinha, vegetação.

**Keywords:** paleoclimatology, mid-late Holocene, southwestern Iberian shelf, marine palynology, vegetation, Holocene.

## New insights into the last deglaciation in the south-western iberia: vegetation cover and climate variability

Novos indícios sobre a última glaciação no SW da Ibéria: vegetação e variabilidade climática

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Direct correlation between terrestrial (pollen) and marine climatic indicators (sea surface temperatures-SST) from a core D13882 (south-western Iberian margin) allows the detection of millennial scale climate variability for the last deglaciation in the mid-latitudes of the eastern North Atlantic realm.

The Bölling-Alleröd (B-A) is marked by the expansion of deciduous trees reflecting warm and wet conditions. In contrast, the Younger Dryas (YD) event is characterized by the contraction of temperate trees and the expansion of semi-desert plants (Chenopodiaceae, *Artemisia* and *Ephedra*), suggesting a cooling and dry episode. The beginning of the Holocene is marked by the return to warm and wet conditions as revealed by the recovery of the temperate trees. All these continental climatic changes are synchronous with the sea surface temperature variability in the same region and with the atmospheric temperature oscillations recorded in the Greenland Ice cores.

The maximum expansion of the temperate trees and SST at 11700 cal yrs BP marks the beginning of the Holocene thermal maximum (HTM) in the south-western Iberia.

**Palavras chave:** paleoclimatologia, deglaciação, SW margem Ibérica, palinologia marinha, vegetação.

**Keywords:** paleoclimatology, deglaciation, south-western Iberian margin, marine palynology, vegetation.

## Pulses of aeolian activity in Portugal driven by enhanced westerlies during the deglaciation

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The climate of the Earth Planet is regulated by the transference of energy from the Equator to the poles by the coupled ocean-atmosphere circulation system. Events of rapid climate change during the last deglaciation were characterized by a weakening of the Atlantic Meridional Overturning Circulation (AMOC). Conversely, atmospheric circulation was dramatically enhanced during rapid climate shifts suggesting a complex ocean-atmosphere coupling. Here, we investigated the aeolian record from central Portugal to reconstruct windfield regimes during the deglaciation assuming that dunes are sensitive to changes in atmospheric circulation. The analysis of the internal architecture obtained with Ground Penetrating Radar (GPR) and the ages of the identified units obtained by Optically Stimulating Luminescence (OSL) support enhanced atmospheric circulation during the Heinrich event 1 and the Younger Dryas inferred from the occurrence of sand drift pulses driven by intense westerly winds. On the other hand, the results suggest enhanced storminess during these cooling events, which in turn conflicts with the widely accepted idea that arid conditions dominated SW Europe during H1 and YD cooling events.

**Keywords:** aeolian activity, windfield, westerlies, OSL, GPR.

## Latitudinal and Longitudinal SST gradient in the Western Iberian Margin during the LGIT

Gradiente de temperatura Latitudinal e Longitudinal ao longo da Margem Ibérica durante a última transição do glacial para o Interglacial

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Sea Surface temperature records based in alkenone Uk'37 Index and planktic foraminifera along the Iberian margin reveal millennial-scale climate variability over the last deglaciation, in particular during the Last Glacial Interglacial Transition (LGIT). In the Iberian margin, Heinrich event 1 (H1) and the Younger Dryas (YD)